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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 013436.0235PTUS (Bortolini 6-7-1)	
	Application Number 09/766,736-Conf. #1298	Filed January 22, 2001
	First Named Inventor Edward J. Bortolini et al.	
	Art Unit 2623	Examiner U. Raman

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant /inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [x] attorney or agent of record. Registration number 28,300
- [ ] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____

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12/20/06
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

- [ ] *Total of 1 forms are submitted.

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013436.0235PTUS (Bortolini 6-7-1)

STATEMENT OF REASONS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Appellant's invention represents a novel architecture for data communication networks that serve end user locations. In existing data communication networks, the cable modem termination systems are centrally located in the cable head-ends or in the primary hubs that are connected to the cable head-ends. The use of this either/or network implementation provided consistence of placement of cable modem termination systems, which simplified both maintenance and network management and also used only a single ubiquitous bidirectional cable modem termination system in every site.

In addition, the original broadband cable transmission systems were engineered to provide a one-way distribution of video program material from the cable head-end to the end user locations; therefore, 95% of the available data transmission bandwidth in these broadband cable networks is dedicated to transmissions from the cable head-end to the end user locations. The upstream path of the broadband cable network, therefore, is a critical resource which limits the number of end user locations that can be served by a particular cable modem termination system and also limits the number and nature of new interactive services that can be offered to the end user locations. Therefore, existing service offerings are limited to those which place a minimal demand on the upstream communication capabilities of the broadband cable network. In addition, service providers have limited the number of end user locations that can be served by each passive fiber node in the broadband cable network to enable the upstream channel to serve these end user locations. Therefore, the bandwidth limitation of the upstream channel in the broadband cable network represents a service offering limitation and an inefficiency in terms of the number of end user locations that can be served.

In contrast, Appellant's network distributes the cable modem termination system functionality into two separate special-purpose unidirectional broadband cable modem components, which are installed at two different and distinct levels of the network thereby to reduce the overall cost of serving the end user locations. In particular, this architecture centralizes the single-point to multi-point function of the downstream signaling while

simultaneously localizing the multi-point to single-point functions of the upstream signaling by using a unidirectional "upstream broadband cable modem component," which functions to exclusively convert data that is received in a radio frequency based format from selected end user locations to data in a digital base-band IP format for transmission to the head-end, and a unidirectional "downstream broadband cable modem component," which functions to exclusively convert data that is received in a digital base-band IP format from a source of program material located at the head-end to data in a radio frequency based format for transmission to selected end user locations. The communications network is a multi-level hierarchical network, and the upstream broadband cable modem components are placed in this multi-level hierarchical network at a level in the network that is different than the downstream broadband cable modem components, such that the multiplexing and de-multiplexing that is effected by these respective broadband cable modem components occurs at different levels of the multi-level hierarchical network.

The significance of this distribution of functionality is that the upstream broadband cable modem components serve to distribute traffic among a large number of end user locations, and the data communications traffic to the end user locations is significantly greater than the data communications traffic generated by the end user locations and transmitted to the multi-level hierarchical network. Thus, typically there is a need for far more downstream broadband cable modem components in a multi-level hierarchical network than upstream broadband cable modem components. This disparity in numbers represents a cost savings over existing networks where each bidirectional cable modem termination system was equipped with both the upstream and downstream broadband cable modem components as an integral device and also enables the growth of the network to occur incrementally as end user locations are added and traffic is generated.

Appellant acknowledged the above-described implementation of existing networks in the specification of this application, and the Examiner has used this description as the basis for rejecting Appellant's claims. However, the Examiner extrapolates the prior art noted by Appellant now to suggest placing bidirectional cable modem termination systems at multiple levels of the network, although there is no suggestion to do so in the prior art, since the

prior art implements an either/or scheme of placing the bidirectional cable modem termination system in the cable head-ends or in the primary hubs that are connected to the cable head-ends. In addition, this particular placement of bidirectional devices fails to address Appellant's claimed unidirectional upstream and downstream broadband cable modem components.

Appellant's attorney, in a telephone conference with the Examiner, addressed the obviousness rejection and, in an Amendment filed on September 14, 2006, amended the independent claims as suggested by the Examiner to provide significantly more structure in the independent claims both to clarify the recitation of Appellant's invention and to provide structure that was specifically not shown or suggested in the prior art. In particular, the unidirectional nature of the upstream and downstream broadband cable modem components, their precise functionality, and their location being both mutually exclusive and at different levels of the network were all stated in the independent claims to distinguish Appellant's invention from the prior art. The Examiner, in response to Appellant's amendment, reasserted the same obviousness rejection based on Appellant's acknowledged art.

The issue that must be addressed, therefore, is straightforward: would it be obvious to one of ordinary skill in the art at the time the invention was made both to replace all of the bidirectional cable modem termination systems of the prior art with downstream broadband cable modem components and upstream broadband cable modem components and to also distribute downstream broadband cable modem components and upstream broadband cable modem components among different levels of the network, as recited in Appellant's independent claims? There is no suggestion in the prior art to make either of these changes to both the network implementation and the implementation of the cable modem termination systems. Therefore, Appellant respectfully maintains that Appellant's claims, as amended in the Amendment filed on September 14, 2006, are patentable under 35 U.S.C. 103(a) over the prior art cited by the Examiner.